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A CODE VALIDATION ON HYPERSONIC SHOCK/BOUNDARY LAYER INTERACTION FLOWS
OVER A HOLLOW CYLINDER/FLARE CONFIGURATION

Abstract

A computational fluid dynamic (CFD) code based on Navier-Stokes techniques is developed to simulate complex hypersonic shock/boundary layer interaction flows. The hypersonic separated flows with shock wave/laminar boundary layer interaction over a hollow cylinder/flare configuration are computed using the code with a slip boundary condition in this paper. The results are compared with Holden's experiment data in order to validation the CFD code. The analysis shows that the code give consistent results of separation zone size and the distributions of pressure coefficient and Stanton number.